Appl. No.: 10/707,554
Amdt. Dated: 4/3/2005
Reply to Office action of: 01/13/2005

AMENDMENTSTOTHEDRAWINGS:

There are no drawing changes presented herewith.

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REMARKS/ARGUMENTS

Claim 19 has been amended to include the limitations of Claim 7 and Claim 20 has been amended to include the limitations of Claim 16. Claims 7 and 16 have been canceled. Claims 2 – 5, 8, 9, 11 – 14, and 17 – 20 remain in this application.

No new matter has been introduced by these amendments to the claims.

Applicant questions the issuance of a final action where new art is introduced for the first time as a basis for rejection.

Claims 19, 3 – 5 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kraus et al. (6280253) in view of Panella et al. (6095821). Specifically, the Examiner states:

> **In regard to claim 19**, Kraus et al. disclose a flat female 150 terminal for inserting in a printed circuit board 66 for mounting electrical components 162 comprising:
>
> a body portion (not marked) having two ends and two sides comprising: two resilient arms 42-64 (see Fig. 1 and 9-a) in spaced relationship located on one end of the body portion (not marked), the arms being beveled on their inner portion and the inner portion of each of the resilient arms facing each other (see Fig. 1 and 9-a);
>
> one pin 40/156 located on the end of the body portion opposite the two resilient arms 64 being suitable for inserting into a complimentary bore on a printed circuit board 66, the at least one pin 40/156 being further characterized as having a shape the end of which is dimensioned smaller than the complimentary bore of a printed circuit board and the base of the pin being dimensioned to provide a tight friction fit between the at least one pin and the complimentary bore 68 on the printed circuit board 66 (see Col. 3, lines 51-60);
>
> a support projection (not marked) located on each side of the body portion suitable for interacting with a female terminal insertion tool for mounting the female terminals 150 in a printed circuit board 66 (see Fig. 9-a).
>
> However, Kraus et al. lack two pins located on the end of the body portion. Panella et al. teach two pins 72 located on the end of the body portion 60 in order to provide steady and reliable connection with PCB 14. Therefore, it would have been obvious to one having

ordinary skill in the art at the time the invention was made and for the same reason to include two pins contact of Panella et al. in structure of Kraus et al.

In regard to claim 3, Kraus et al. modified by Panella et al. disclose two pins 72 is beveled on the end (see Fig. 5).

In regard to claim 4, Kraus et al. modified by Panella et al. show a plurality of the flat female terminals connected in a ribbon 12 or 14 by the projection areas of the body portions (see Fig. 1) and forming a continuous coil-shaped wound band of the flat female terminals (see Fig. 12).

In regard to claim 5, Kraus et al. modified by Panella et al. show the projections (not marked) are formed by cutting a single flat female terminal from a strip of connected flat female terminals, which is well-known conventional method to make this type of terminals.

In regard to claim 7, Kraus et al. modified by Panella et al. disclose at least two pins 72 comprise a plurality of pins the number of which is based on the electrical current load to be carried by the pins.

Applicant respectfully traverses these rejections. Applicant's amended claims are directed to flat female terminals which may be connected in a ribbon of multiple flat female terminals, all of which have at least two pins for connecting to a circuit board and the exact number of pins being based on the electrical current load to be carried by the pins.

The Kraus et al. reference does not disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not disclosed, suggested, or anticipated by the Kraus et al. reference.

A fair reading of the Panella et al reference teaches the use of pairs of flat female terminals, each flat female terminal of each pair having a two pins for mounting in a printed circuit computer motherboard as a larger unit previously assembled by mounting the pairs of flat female terminals into a bracket (board mounting slot) which when fully populated with terminals is mounted as a single unit to a printed circuit computer motherboard. The choice of two pins in one of each of said pair of flat female terminals is predicated on the requirements for data transfer having no electrical current component at all. The choice of two pins on the other of each of said pair of flat female terminals predicated on the need for a dual redundant electrical connection to protect against data

transfer errors caused by power fluctuation to the devise mounted in the assembled bracket mounted on the motherboard. There is no teaching of determining the number of mounting pins predicated on the current load because the current load of motherboard components is universally substantially the same. Because the flat female terminals are first permanently mounted in a computer card slot bracket there is no requirement for a means to provide a way to use a tool to mount individual flat female terminals onto a printed circuit board at all. Thus, the Panella et al. reference does not disclose how to mount individual flat female terminals onto a printed circuit board using a mounting tool, and does not disclose or even suggest how to determine the number of mounting pins based on current load. Furthermore, Applicants' claimed invention does not require the use of paired flat female terminals to provide both current and data transfer. Clearly when viewed in this light the Panella et al. reference does not disclose, teach, or fairly suggest Applicants' claimed invention. Neither the Kraus et al. reference nor the Panella et al. disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not disclosed or fairly suggested by the Kraus et al. reference, the Panella et al. reference, or any combination of these references. Thus, Applicant respectfully requests this rejection be removed.

Claims 1 – 3 and 7 – 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Zanolli (6206735) in view of Panella et al. (6095821). Specifically, the Examinerstates:

> **In regard to claim 1**, Zanolli discloses a flat female terminal 10 for inserting in a printed circuit board for mounting electrical components comprising:
>
> a body portion (not marked, see Fig. 1) having two ends and two sides comprising: two resilient arms 10' in spaced relationship located on one end of the body portion, the arms 10' on their inner portion being beveled and the inner portion of each of the resilient arms facing each other (see Fig. 1);
>
> one pin 10" located on the end of the body portion opposite the two resilient arms 10', one pin 10" being suitable for inserting into a complimentary bore on a printed circuit board, the least one pin 10" being further characterized as having a shape the end of which is dimensioned smaller than the complementary bore of a printed circuit board and the base of the pin being dimensioned to provide a tight friction fit between the at

least one pin 10" and the complimentary boar on the printed circuit board (see Col. 1, lines 10-15-200;

and a support projection 12 located on each side of the body portion suitable for interacting with a female terminal insertion tool (see Col. 1, lines 34-35) for mounting the terminals in a printed circuit board. However, Zanolli lacks two pins located on the end of the body portion. Panella et al. teach two pins 72 located on the end of the body portion 60 in order to provide steady and reliable connection with PCB 14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include two pins contact of Panella et al. in structure of Zanolli.

In regard to claim 2, Zanolli modified by Panella et al. discloses the at least two pins 10"/72 has a width slightly larger than the diameter of a complimentary bore on a circuit board (see Col. 1, lines 10-15-20).

In regard to claim 3, Zanolli in view of Panella et al. discloses the at least two pins 10" is beveled on the end (see "34" in Fig. 1).

In regard to claim 7, Zanolli modified by Panella et al. discloses at least two pins 72 comprise a plurality of pins the number of which is based on the electrical current load to be carried by the pins.

In regard to claim 8, Zanolli modified by Panella et al. discloses the distance of the spaced relationship between the arms 10' is inherently selected according to the type of component to be inserted between them.

In regard to claim 9, Zanolli modified by Panella et al. discloses the terminal 10 is comprised of a material **inherently** having a desired resiliency and a desired electrical conductivity.

Applicant respectfully traverses these rejections. With regard to Claim 1, which was canceled in the previous Response by Applicant, arguments presented here are based on Applicant's best available understanding that Claim 19 was meant and not Claim 1. Applicant's amended claims are directed to flat female terminals which may be connected in a ribbon of multiple flat female terminals, all of which have at least two pins for connecting to a circuit board and the exact number of pins being based on the electrical current load to be carried by the pins.

The Zanolli reference does not disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not anticipated by the Zanolli reference.

A fair reading of the Panella et al reference teaches the use of pairs of flat female terminals, each flat female terminal of each pair having a two pins for mounting in a printed circuit computer motherboard as a larger unit previously assembled by mounting the pairs of flat female terminals into a bracket (board mounting slot) which when fully populated with terminals is mounted as a single unit to a printed circuit computer motherboard. The choice of two pins in one of each of said pair of flat female terminals is predicated on the requirements for data transfer having no electrical current component at all. The choice of two pins on the other of each of said pair of flat female terminals predicated on the need for a dual redundant electrical connection to protect against data transfer errors caused by power fluctuation to the devise mounted in the assembled bracket mounted on the motherboard. There is no teaching of determining the number of mounting pins predicated on the current load because the current load of motherboard components is universally substantially the same. Because the flat female terminals are first permanently mounted in a computer card slot bracket there is no requirement for a means to provide a way to use a tool to mount individual flat female terminals onto a printed circuit board at all. Thus, the Panella et al. reference does not disclose how to mount individual flat female terminals onto a printed circuit board using a mounting tool, and does not disclose or even suggest how to determine the number of mounting pins based on current load. Furthermore, Applicants' claimed invention does not require the use of paired flat female terminals to provide both current and data transfer. Clearly when viewed in this light the Panella et al. reference does not disclose, teach, or fairly suggest Applicants' claimed invention. Neither the Zanolli reference nor the Panella et al. disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not disclosed or fairly suggested by the Zanolli reference, the Panella et al. reference, or any combination of these references. Thus, Applicant respectfully requests this rejection be removed.

Claims 11, 12, 16 – 18 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Leibowitz (4944684) in view of Panella et al. (6095821). Specifically, the Examiner states:

> **In regard to claim 20**, Leibowitz discloses a flat female 16 terminal for inserting in a printed circuit board

14 for mounting electrical components 30 or 32 comprising:

a body portion (not marked) having two ends and two sides comprising; two resilient arms 22 in spaced relationship located on one end of the body portion, the arms being beveled on their inner portion and the inner portion of each of the resilient arms facing each other (see Fig. 2A);

one pin 36 located on the end of the body portion opposite the two resilient arms 22 being suitable for inserting into a complimentary boar on a printed circuit board 14, the pin 36 being further characterized as having a shape the end of which is dimensioned smaller than the complimentary boar of a printed circuit board and the base of the pin being dimensioned to provide a tight friction fit between the one pin and the complimentary bore on the printed circuit bard (see Col. 4, lines 59-62);

a support projection 34 located on each side of the body portion suitable for interacting with a female terminal insertion tool for mounding the female terminals 16 in a printed circuit board 14; and

a shoulder (not marked, see Fig. 2B, area below 34) located on each side of the body portion at the end having the at least one pin 36 mounted thereto having a dimension greater than **thebase** of the at least one pin and **less** than the dimension of the support projection 34 thereby providing a **space** between the printed circuit board 14 and the support projections 34 **allowing for** the introduction of **conductor bridges** and the line. **This arrangement** meets the structural requirements of the claim including **a space, as shown in Figs. 1, 2A** and 2B, thereby allowing introduction of a structure including the conductive bridge, as claimed. However, Leibowitz lacks that two pins located on the end of the body portion opposite the two resilient arms.

Panella et al. teach two pins 72 located on the end of the body portion 60 in order to provide steady and reliable connection with PCB 14. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made and for the same reason to include two pins contact of Panella et al. in structure of Leibowitz

In regard to claim 11, Leibowitz modified by Panella et al. discloses the at two pins 36 have a width slightly larger than the diameter of a complimentary bore on a circuit board (see Col. 4, lines 59-62).

In regard to claim 12, Leibowitz modified by Panella et al. discloses the two pin 36 is beveled on one end (see Fig.2A)

In regard to claim 16, Leibowitz modified by Panella et al. discloses at least two pins 36/72 comprise a plurality of pins the number of which is based on the electrical current load to be carried by the pins.

In regard to claim 17, Leibowtiz modified by Panella et al. discloses the distance of the spaced relationship between the arms 22 is **inherently** selected according to the type of component to be inserted between them.

In regard to claim 18, Leibowitz modified by Panella et al. discloses the terminal 16 is comprised of a material **inherently** having a desired resiliency and a desired electrical conductivity.

Applicant respectfully traverses these rejections. Applicant's amended claims are directed to flat female terminals which may be connected in a ribbon of multiple flat female terminals, all of which have at least two pins for connecting to a circuit board and the exact number of pins being based on the electrical current load to be carried by the pins.

The Leibowitz reference does not disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not anticipated by the Leibowitz reference.

A fair reading of the Panella et al reference teaches the use of pairs of flat female terminals, each flat female terminal of each pair having a two pins for mounting in a printed circuit computer motherboard as a larger unit previously assembled by mounting the pairs of flat female terminals into a bracket (board mounting slot) which when fully populated with terminals is mounted as a single unit to a printed circuit computer motherboard. The choice of two pins in one of each of said pair of flat female terminals is predicated on the requirements for data transfer having no electrical current component at all. The choice of two pins on the other of each of said pair of flat female terminals predicated on the need for a dual redundant electrical connection to protect against data

transfer errors caused by power fluctuation to the devise mounted in the assembled bracket mounted on the motherboard. There is no teaching of determining the number of mounting pins predicated on the current load because the current load of motherboard components is universally substantially the same. Because the flat female terminals are first permanently mounted in a computer card slot bracket there is no requirement for a means to provide a way to use a tool to mount individual flat female terminals onto a printed circuit board at all. Thus, the Panella et al. reference does not disclose how to mount individual flat female terminals onto a printed circuit board using a mounting tool, and does not disclose or even suggest how to determine the number of mounting pins based on current load. Furthermore, Applicants' claimed invention does not require the use of paired flat female terminals to provide both current and data transfer. Clearly when viewed in this light the Panella et al. reference does not disclose, teach, or fairly suggest Applicants' claimed invention. Neither the Leibowitz reference nor the Panella et al. disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not disclosed or fairly suggested by the Leibowitz reference, the Panella et al. reference, or any combination of these references. Thus, Applicant respectfully requests this rejection be removed.

Claims 13 – 14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Leibowitz (4644684) and Panella et al. (6095821) as applied to claim 20 above, and further in view of Kraus et al. (6280253). Specifically, the Examiner states:

> **In regard to claim 13**, Leibowitz modified by Panella et al. discloses most of the claimed invention except it does not show how a plurality of the flat female terminals connected in a ribbon.
>
> Kraus et al. show a plurality of the flat female thermals are connected in a ribbon by the projection areas of the body portions forming a continuous coil-shaped wound band of the flat female terminals. Therefore, it would have been **obvious** to one having ordinary skill in the art at the time the invention was made **toinclude** a strip of connecting female terminals in a ribbon by the projection areas of the body portions in Leibowitz structure **inorder** to the strip would not be broken unintentional. Also, the official notice is taken that forming a continuous coil-shaped would band that flat female terminals **is conventional way** to store and transport the strips.

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> **In regard to claim 14**, Leibowitz modified by Panella et al. discloses the projections 34 are formed by cutting a single flat female terminal 18 from a strip of connected flat female terminals, which is **well-known conventional method** to make this type of terminals.

Applicants respectfully traverse these rejections. Applicant's amended claims are directed to flat female terminals which may be connected in a ribbon of multiple flat female terminals, all of which have at least two pins for connecting to a circuit board and the exact number of pins being based on the electrical current load to be carried by the pins.

The Leibowitz reference does not disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not anticipated by the Leibowitz reference.

A fair reading of the Panella et al reference teaches the use of pairs of flat female terminals, each flat female terminal of each pair having a two pins for mounting in a printed circuit computer motherboard as a larger unit previously assembled by mounting the pairs of flat female terminals into a bracket (board mounting slot) which when fully populated with terminals is mounted as a single unit to a printed circuit computer motherboard. The choice of two pins in one of each of said pair of flat female terminals is predicated on the requirements for data transfer having no electrical current component at all. The choice of two pins on the other of each of said pair of flat female terminals predicated on the need for a dual redundant electrical connection to protect against data transfer errors caused by power fluctuation to the devise mounted in the assembled bracket mounted on the motherboard. There is no teaching of determining the number of mounting pins predicated on the current load because the current load of motherboard components is universally substantially the same. Because the flat female terminals are first permanently mounted in a computer card slot bracket there is no requirement for a means to provide a way to use a tool to mount individual flat female terminals onto a printed circuit board at all. Thus, the Panella et al. reference does not disclose how to mount individual flat female terminals onto a printed circuit board using a mounting tool, and does not disclose or even suggest how to determine the number of mounting pins based on current load. Furthermore, Applicants' claimed invention does not require the use of paired flat female terminals to provide both current and data transfer. Clearly when

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viewed in this light the Panella et al. reference does not disclose, teach, or fairly suggest Applicants' claimed invention.

The Kraus et al. reference does not disclose the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not disclosed, suggested, or anticipated by the Kraus et al. reference. Neither the Leibowitz reference nor the Panella et al. disclose the use of multiple connection pins based on the electrical current load to be carried. The Kraus et al. reference also fails to teach the use of multiple connection pins based on the electrical current load to be carried. Clearly, when viewed in this light the subject Claims are not disclosed or fairly suggested by the Leibowitz reference, the Panella et al. reference, the Kraus et al. reference, or any combination of these references. Thus, Applicant respectfully requests this rejection be removed.

In view of the remarks herein, and the amendments hereto, it is submitted that this application is in condition for allowance, and such action and issuance of a timely Notice of Allowance is respectfully solicited.

Respectfully submitted,

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